

ACACIA SETULIFERA: A NEW KIMBERLEY RECORD OF A RARELY COLLECTED NORTHERN AUSTRALIAN WATTLE

By BRUCE R. MASLIN

Western Australian Herbarium, P.O. Box 104 Como, W.A. 6152,

and ARTHUR S. WESTON,

8 Pitt Street, St James, W.A. 6102

ABSTRACT

Acacia setulifera is reported for the first time from Western Australia. It was found on sandstone in a restricted area of the east Kimberley region south of Kununurra. This is only the second record of this apparently uncommon northern Australian wattle since it was originally collected by Benjamin Bynoe last century. It is concluded that Bynoe's original (type) collection was probably made in November 1839 from Holdfast Reach on the Victoria River, Northern Territory. The habit, habitat and population size of *A. setulifera* are described and the species is illustrated, thus facilitating its future recognition.

ORIGINAL COLLECTION AND DESCRIPTION

The first collection of *Acacia setulifera*, and the one used by George Bentham (1855: 625) to formally describe the species, was made by Benjamin Bynoe in northern Australia during the first half of the nineteenth century. Until recently this was the only known gathering of this apparently uncommon species.

For most of the period between 30 October 1826 and 14 October 1843 Bynoe was the Surgeon on the H.M.S. *Beagle*. The following extract from Hall (1978) summarizes Bynoe's collecting activity during this period: "The boat was commissioned to explore certain parts of north-western Australia and the best channels through Bass and Torres Straits. No botanist accompanied the expedition but Bynoe made valuable collections, chiefly on Depuch Island, the Abrolhos, the Victoria River, Bass Strait and in New South Wales; these went to the Sir W. Hooker herbarium, which is now part of the Kew Herbarium."

One of us (BRM) has examined Bynoe's specimens of *A. setulifera* which are preserved in England at both the Kew Herbarium (herb. Kew) and The Natural History Museum (herb. BM). The Kew material comprises two specimens mounted on a single sheet labelled: "N.W. Coast. Bynoe". This writing is in the hand of Jules Emile Planchon, who was W.J. Hooker's assistant from 1844 until



Figure 1. *Acacia setulifera*, in centre foreground, on low sandstone ridge, with Pindan behind and Carr Boyd Range in background.

1848. George Benthams has also annotated this sheet, viz. "*Acacia setulifera* Benth." The herb. BM material is mounted on a sheet bearing a printed label: "Voyage of H.M.S. Beagle, 1839-40. Cpts. Wickham and Stokes. Coll. Bynoe. Presented 1842.", and a handwritten annotation (in an unknown hand): "Shrub. Water Valley, Victoria River, Nov./39."

From the above it is concluded that Bynoe made his collection of *A. setulifera* in November 1839 from "Water Valley". Judging from the

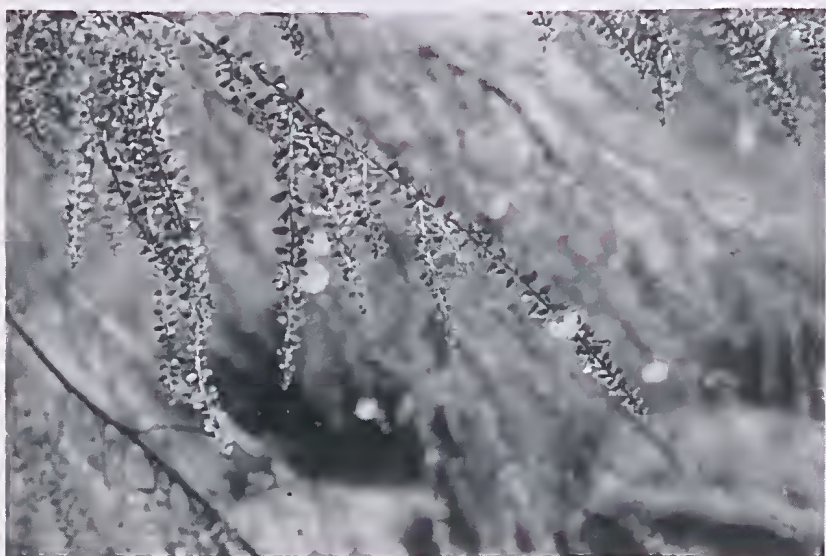


Figure 2. Branch of *Acacia setulifera*, showing phyllodes, buds and flowers.

map given in Feeken *et al.* (1970), this locality is in Holdfast Reach on the Victoria River, N.T. Bynoe's specimens found their way to London, where, in 1855, George Benthams used the material in the Hooker Herbarium to formally describe the species. This herb. Kew material is regarded as the holotype; the herb. BM material is regarded as isotype. Around 1915 fragments of both these collections were donated to J.H. Maiden and these are now preserved at the National Herbarium of NSW in Sydney.

HABIT AND HABITAT

The following description of the habit and habitat features of *A. setulifera* is based on field observations by one of us (ASW). The plants occurred on a low sandstone ridge surrounded by sandplain immediately west of the Carr Boyd Range. The dominant vegetation on the site was "Bloodwood" (*Eucalyptus*? *conioophloia* with *E. miniata*) woodland surrounded by "Pindan" (*Acacia tumida* and *A. holosericea*). The population consisted of approximately 30 live shrubs and approximately 8 dead plants. The plants were rounded shrubs

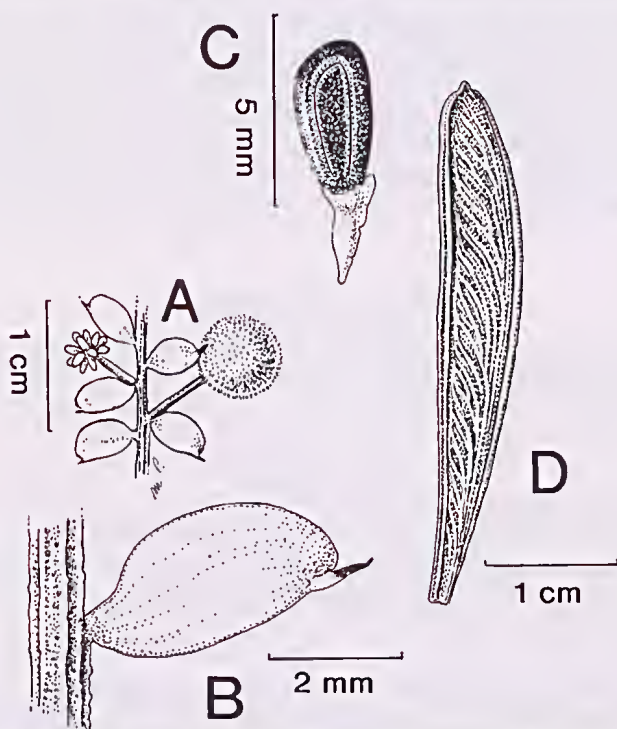


Figure 3. *Acacia setulifera*. A, portion of flowering branchlet. B, Phyllode with very obscure longitudinal nerves and setose apical point. C, seed (slightly immature) with terminal, conical aril. D, legume with thickened margins and obliquely nerved surface. A & B from A.S. Weston 900815-1; C & D from A.S. Weston 900512-1. Drawn by Margaret Pieroni.

which varied in height from under 50 cm tall to approximately 1 m. Figure 1 shows the species in its natural habitat.

The habit and details of phyllodes, flowers and legumes are shown in Figures 1, 2 and 3. A description of the species will be provided in the forthcoming Flora of Australia volume on *Acacia*.

DISTRIBUTION AND ECOLOGY

Distribution. Known only from near the mouth of the Victoria River in Northern Territory and from near the Carr Boyd Range in Western Australia. These two areas are about 200 km apart and separated by rugged terrain which is difficult of access. It is quite possible that future collecting will show this species to be more common than current collections indicate.

Until recently the only known record of *A. setulifera* was the type (see Maslin & Pedley, 1982). It was, however, recently re-collected from near the type locality in N.T. by Dunlop and Leach (see below). Apart from these two collections the species is known only from the W.A. material collected by ASW (see below).

Specimens examined. NORTHERN TERRITORY: Type locality [probably Holdfast Reach on the Victoria River, November 1839], B. Bynoe s.n. (holotype: K; isotype: BM, NSW - fragments); Victoria River area, 15°16'S, 129°35'E, C.R. Dunlop & G.J. Leach 8204 (DNA, PERTH). WESTERN AUSTRALIA: ca 50 km SSW of Kununurra, 16°08'S, 128°27'E, A.S. Weston 900512-1 (PERTH) & 900815-1 (MEL, NSW, PERTH).

ACKNOWLEDGEMENTS

Margaret Pieroni is thanked for providing the fine illustration of the species given in Figure 3.

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